SONY

3-765-933-21 (1)

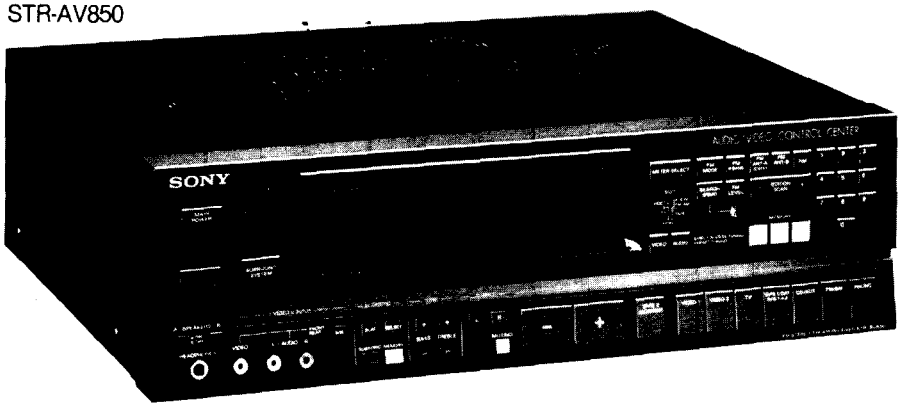
FM STEREO/FM-AM RECEIVER

STR-AV850/950

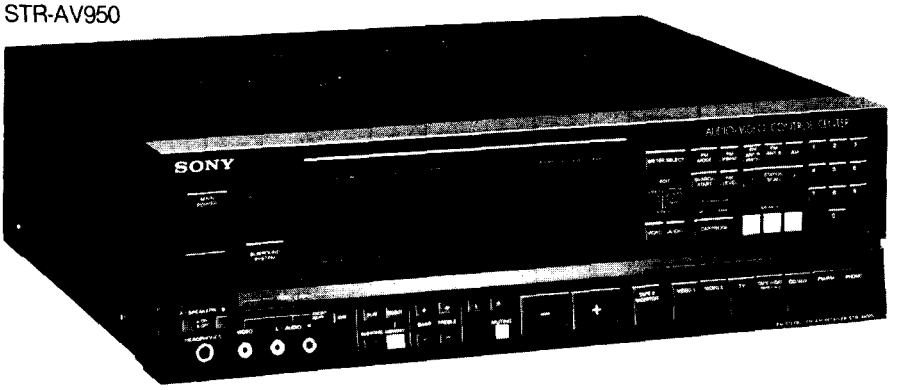
OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly and retain it for future reference.

STR-AV850



STR-AV950



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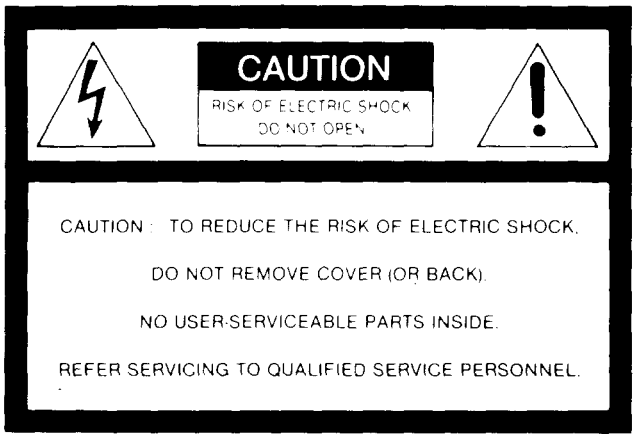
OWNER'S RECORD

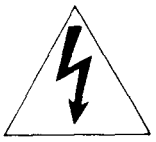
The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This instruction manual covers the STR-AV850 and the STR-AV950. The photos and illustrations used in the manual are of the STR-AV950.

Differences between the STR-AV850 and the STR-AV950

	STR-AV850	STR-AV950
CARTRIDGE select button	not equipped	equipped
Power output	80 W + 80 W	115 w + 115 w

The remote commander is supplied with the unit. For connections and operations of the remote commander, refer to its instruction manual.

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FEATURES

The STR-AV850/950 is a combined receiver and audio/video control center. You can enjoy various audio/video program sources with this unit.

General

- **TV or CATV programs can be enjoyed with FM simulcast.**
- **Various Audio program sources can be added on a video tape during tape editing.**
- **The supplied remote control** allows you to remotely control the connected equipment as well as the receiver.

Tuner

- **Precise tuning** with a quartz-locked digital synthesizer system.
- **A total of 10 FM/AM stations can be preset.**
- **The appropriate FM stereo mode and FM IF band is selected automatically** according to the signal strength of the station received.

Display

- **Receivable FM/AM stations are displayed.**
- **5-band power output display**

Others

- **The surround sound system** enhances live atmosphere of the sound.
- **The volume fade-in function** increases the volume gradually from the minimum to a previously set level when the unit is turned on.

PRECAUTIONS

On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth slightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine.

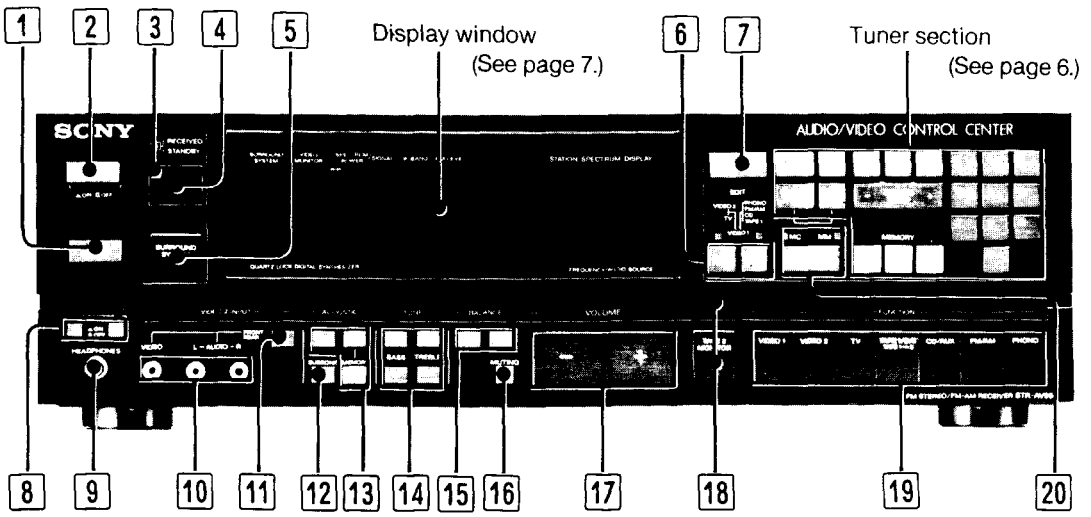
On repacking

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in.

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

LOCATIONS AND FUNCTION OF CONTROLS

FRONT



1 SYSTEM POWER switch
First turn the MAIN POWER switch on, and then press this switch to turn the receiver and the equipment connected to the AC outlet of the receiver on and off.

2 MAIN POWER switch
Depress to turn the main power on.

3 RECEIVED/STANDBY indicator
Lights when the main power is turned on and the system power is turned off.
Blinks when the unit received the signal from the remote commander.

4 Remote control sensor

5 SURROUND SYSTEM button
When listening to a stereo source, press to enhance stereophonic effect. Press again to disengage the system.

6 EDIT buttons
AUDIO: For recording an audio program source on a video tape, or for adding sound on a video tape during tape editing
VIDEO: For recording TV programs on a video tape, or for video tape editting

7 METER SELECT button
Each time the button is pressed, the power output display in the display window changes as follows.
Power output display
↓
1/10 scale power output display
↓
Signal strength meter (In FM/AM broadcasts only)
The ATT (volume attenuator) indicator changes to the SIGNAL (signal strength) indicator at the same time.

8 SPEAKERS selectors
Depress to select which speaker system to drive. For both speaker systems, depress A and B.

9 HEADPHONES jack (stereo phone jack)

10 FRONT VIDEO 2 INPUT jacks (phono jack)
Connect a portable VCR for playback or TV tuner.

11 F/R (front/rear) VIDEO 2 INPUT select button
When using the VCR other than that connected to the VIDEO 1 inputs, press it to select which VCR to use, after pressing the VIDEO 2 FUNCTION button.
F: VCR connected to the front VIDEO 2 inputs
R: VCR connected to the rear VIDEO 2 inputs

12 SUBSONIC filter button
Press to reduce unwanted subsonic noise components created by warped records, etc. The filter cut off any input signals below 15 Hz at a 6 dB per octave rate. To disengage the filter, press it again.

13 ACOUSTIC buttons
FLAT: Press to disengage the acoustic setting.
SELECT: Press to memorize or to recall the acoustic setting.
MEMORY: Press to memorize an acoustic setting.

14 BASS and TREBLE TONE control buttons
Control the prominence of bass and treble response.

15 BALANCE control buttons
R: Press to decrease the volume of the left channel.
L: Press to decrease the volume of the right channel.

16 MUTING button
Press to momentarily mute the sound. Press again to restore the same sound level as before.

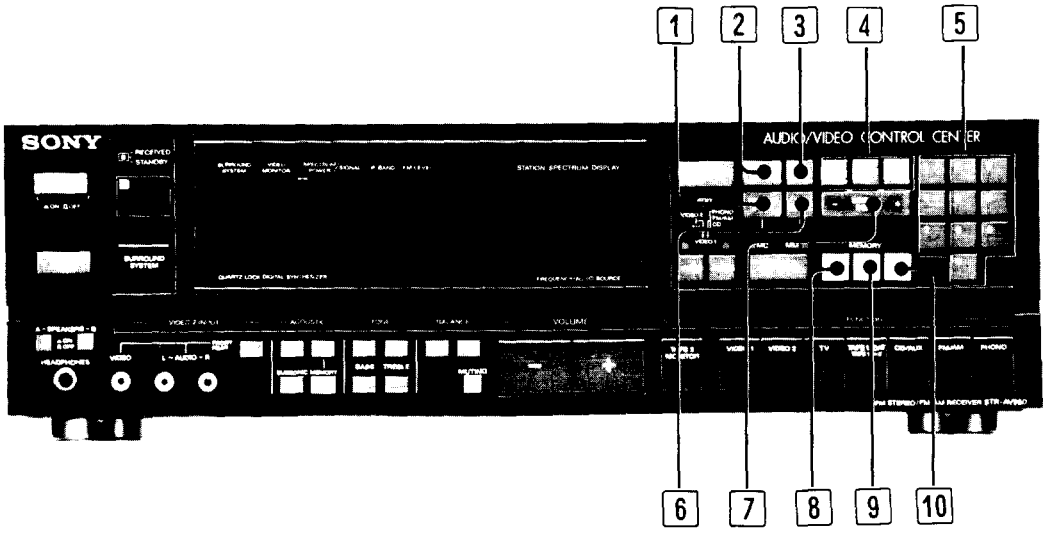
[17] VOLUME control buttons

[18] TAPE 2 MONITOR button and indicator
Press the button to listen to taped programs of the tape deck connected to the TAPE 2 inputs. To listen to the other program sources, press it again.

[19] FUNCTION buttons
PHONO: For record programs
FM/AM: For broadcasting programs
CD/AUX: For compact disc or auxiliary program sources.
TAPE 1/DAT(TAPE 1 → 2): For taped programs of the tape deck connected to the TAPE 1/DAT inputs, or for audio tape dubbing
TV: For TV programs from the TV tuner connected to the TV inputs
VIDEO 2: For video programs of the VCR connected to the front or rear VIDEO 2 inputs
VIDEO 1: For video programs of the VCR connected to the VIDEO 1 inputs

[20] CARTRIDGE select button and indicators (STR-AV950 only)
Set it according to the cartridge type of your turntable system, after pressing the PHONO FUNCTION button.
MC: For moving-coil type
MM: For moving-magnet type

TUNER SECTION



1 SEARCH START button
Press to start searching receivable stations.

2 FM MODE button
The receiver automatically set the appropriate FM mode: STEREO for a strong signal station, or HI-BLEND for a slightly weak station. To change the mode manually, press the button.

HI-BLEND: Press to reduce the noise. Stereo effect will be reduced instead.

MONO: Press for more stable reception. The stereo effect will be eliminated, but the noise will be greatly reduced.

3 FM IF (intermediate frequency) BAND button
When an FM station is first tuned in without interference from an adjacent station, the receiver sets the band from normal (⌒) to wide (⌒) for better sound quality. To change the band manually, press the button.

4 Band/antenna select buttons

FM ANT-A (CATV): For FM broadcasts when the FM antenna is connected to the CATV ANT-A connector, or for FM simulcast CATV programs when the CATV cable is connected.

FM ANT-B: For FM broadcasts when the FM antenna is connected to the FM ANT-B connector

AM: For AM broadcasts

5 Number buttons
Press to set the frequency of the desired station, or to memorize a station and call it up.

6 FM LEVEL select button
Press to select which level of FM stations to tune in.

LOW: All the FM stations located by station searching.

MID: strong and mid-level stations

HIGH: only strong stations

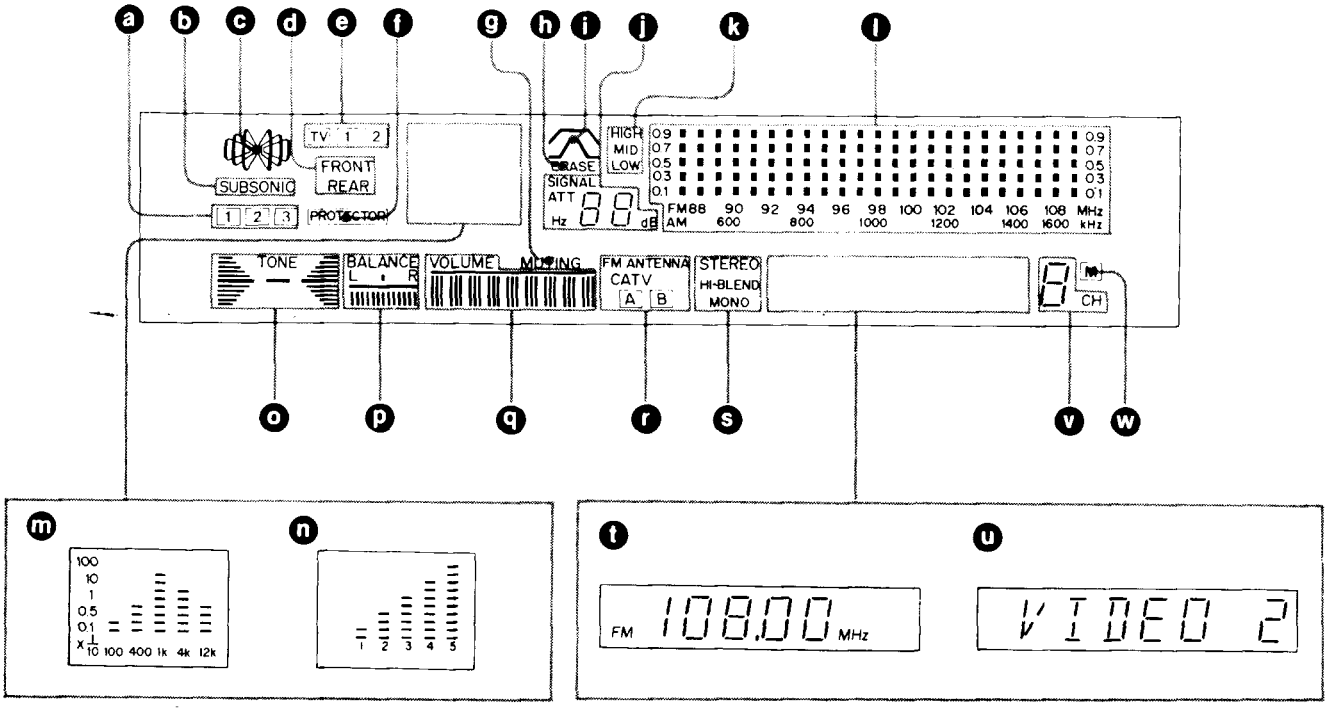
7 STATION SCAN button
Press to scan the receivable stations located by station searching.

8 MEMORY ERASE button
Press to erase the memory of the station located by station searching.

9 MEMORY SCAN button
Press to scan automatically the preset stations.

10 MEMORY PRESET button
Press to memorize the frequency of a station.

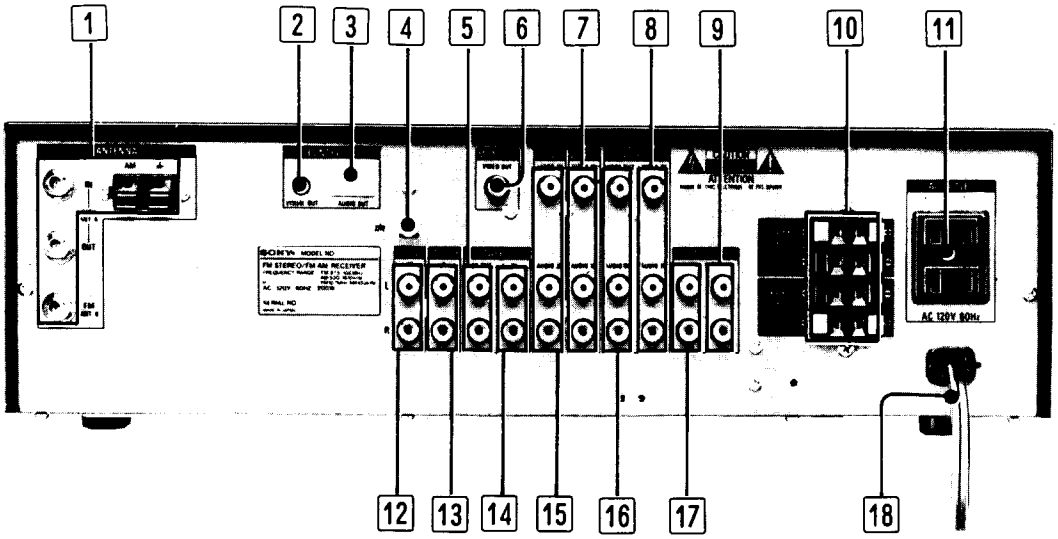
DISPLAY WINDOW



- **a Acoustic memory number indicator**
  Shows the number of the acoustic setting memory, [1], [2] or [3].
- **b SUBSONIC indicator**
  Appears when the SUBSONIC button is pressed.
- **c Surround system indicator**
  Appears when the SURROUND SYSTEM button is pressed.
- **d Video 2 input indicator**
  Indicates the selected VIDEO 2 input ; FRONT or REAR.
- **e Video monitor indicator**
  Indicates what is to be monitored on the connected TV.
  1: Picture from the VCR connected to the VIDEO 1 inputs is monitored.
  2: Picture from the VCR connected to the front or rear VIDEO 2 inputs is monitored.
  TV: TV program is monitored.
- **f PROTECTOR indicator**
  Appears when the protection circuit against a short-circuit is activated.
- **g MUTING indicator**
  Appears when the MUTING button is pressed.
- **h ERASE indicator**
  Appears when the MEMORY ERASE button is pressed.
- **i FM IF band indicator**
  The selected FM IF band is graphically displayed; ⌒ (wide) or ∧ (normal).
- **j ATT (attenuator)/SIGNAL (signal strength) indicator**
  Normally the volume attenuation level is indicated in dB.
  When the METER SELECT button is pressed in FM/AM broadcasts, the signal strength is indicated in dB.
- **k FM level indicator**
  The signal level of FM stations selected by the FM LEVEL select button is displayed.
- **l Station spectrum display**
  The frequencies of the receivable stations located by station searching are shown. When a station is tuned in, the corresponding square flashes.
- **m Power output spectrum display**
  The power output is displayed in wattage in five frequency bands. When the METER SELECT button is pressed, it changes to the 1/10 scale power output display.
- **n SIGNAL strength meter**
  When the METER SELECT button is pressed in FM/AM broadcasts, the received signal strength is indicated in five steps.
- **o TONE indicator**
  Graphically shows the tone control characteristics. A straight bar graph indicates a flat frequency response.
- **p BALANCE indicator**
  Indicates the relative strength of the volume at the left and right speakers.
- **q VOLUME indicator**
- **r FM ANTENNA indicator**
  CATV A: Appears when the FM ANT-A (CATV) button is pressed.
  CATV B: Appears when the FM ANT-B button is pressed.
- **s FM mode indicator**
  The selected FM mode is displayed.
- **t Band/frequency display**
  Indicates the tuned FM/AM station.
- **u Function indicator**
  Indicates the selected function.
- **v Preset number indicator**
  Indicates the preset channel of the FM/AM stations.
- **w MEMORY indicator**
  Appears when the MEMORY PRESET button is pressed.

Rear

For connections, see "Connections".



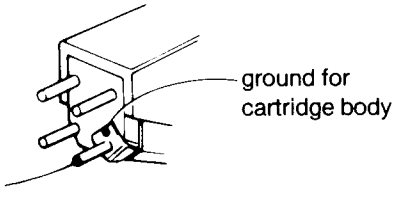
1 ANTENNA terminals
AM and ⏚ (antenna ground): Connect an AM antenna.
CATV ANT-A IN (F-type): Connect an FM antenna or CATV cable.
CATV ANT-A OUT (F-type): This connector supplies the signals connected to the CATV ANT-A IN connector to a VCR, TV tuner or another FM tuner.
FM ANT-B (F-type): Connect an FM antenna.

2 CONTROL S VISUAL OUT jack (minijack)
Used to extend the utility of this unit by providing for the connection of optional video equipment which will be available in the future.

3 CONTROL S AUDIO OUT connector (4 pin)
Connect to the CONTROL S IN or R REMOTE IN connector of other Sony equipment using a 4-pin flat remote control cord in order to control the audio system using the supplied remote commander.

4 ⏚ (phono ground) terminal
Connect the ground wire of a turntable system.

Note
In some particular MM cartridges, the ground for signal is connected to the ground for cartridge body. If this type of cartridge should be installed to a metal cartridge shell, current will flow through the tonearm ground in a loop and will cause hum noise. In this case, disconnect the turntable ground wire from the ⏚ terminal, or disconnect the ground for cartridge body from the ground for signal.



5 TAPE 1/DAT REC OUT jacks (phono jack)
Connect to the LINE IN jacks of the tape deck 1 or a digital audio tape recorder.

6 MONITOR VIDEO OUT jack (phono jack)
Connect to the video input of a component TV. The video signal selected by the TV, VIDEO 1 or VIDEO 2 FUNCTION button and the F/R button is output here.

7 VIDEO 2 VIDEO IN/AUDIO IN jacks (phono jack)
Connect to the VIDEO/AUDIO OUT jacks of the VCR 2 (for playback only)

8 VIDEO 1 VIDEO IN/AUDIO IN jacks (phono jack)
Connect to the VIDEO/AUDIO OUT jacks of the VCR 1.

9 TAPE 2 IN jacks (phono jack)
Connect to the LINE OUT jacks of the tape deck 2.

10 SPEAKER A, B connectors

[11] **AC OUTLETS (SWITCHED)**
These are used to power other audio components whose power consumption is less than 100 W.
These outlets are controlled by the front panel SYSTEM POWER switch.

[12] **PHONO IN jacks (phono jack)**
Connect to the LINE OUT jacks of the turntable system.

[13] **CD/AUX (compact disc/auxiliary) IN jacks (phono jack)**
Connect to the output jacks of a compact disc player or a tape deck for playback.

[14] **TAPE 1/DAT IN jacks (phono jack)**
Connect to the LINE OUT jacks of the tape deck 1 or a digital audio tape recorder.

[15] **TV VIDEO IN/AUDIO IN jacks (phono jack)**
Connect to the VIDEO/AUDIO OUT jacks of the TV tuner.

[16] **VIDEO 1 VIDEO OUT/AUDIO OUT jacks (phono jack)**
Connect to the VIDEO/AUDIO IN jacks of the VCR 1.

[17] **TAPE 2 REC OUT jacks (phono jack)**
Connect to the LINE IN jacks of the tape deck 2.

[18] **AC power cord**

SYSTEM CONNECTIONS

For each connection, refer to the page indicated in the diagram.

Basic connections

FM/AM antenna connection	Page 16, 17
CATV cable connection	17
Speaker connection	18
Power source connection	18

System connections

Program source	Equipment to be connected		Page	Purpose
Audio	Turntable system + Tape deck (1 and/or 2) + CD player, etc.		11	•Playback •Recording •Tape dubbing
VCR/TV	Hi-fi VCRs +	Component TV + TV tuner	12	•Playback •Recording TV programs •Video tape editing
		Conventional TV + TV tuner	13	
	Hi-fi VCR + Conventional TV		14	•Playback •Recording TV programs
	Monaural VCR		15	•Playback •Recording TV programs •Video tape editing
	Portable hi-fi VCR		15	•Playback •Video tape editing
Audio and VCR/TV	Both audio and VCR/TV connections above			•Recording **audio** program sources on a video tape, or vice versa •Adding audio sound on a video tape during editing

Notes on connection

- The power cord should be connected last of all.
- Before connection, be sure to set the MAIN POWER switch to OFF (⏏).
- Connector jacks are color coded as follows:

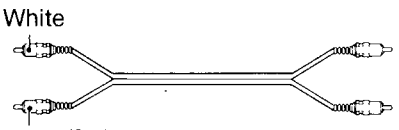
Jack color	Connection
Red	for right-channel audio
White	for left-channel audio
Yellow	for video

- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

Connecting cords

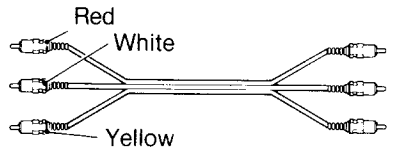
For connection, use the optional connecting cords listed below. The numbers in the diagrams are keyed to those in the list.

❶ **Sony RK-74A**



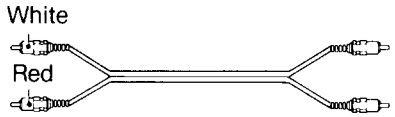
(2 phono plugs ⟷ 2 phono plugs)

❷ **Sony VMC-1P3 or VMC-2P3**



(3 phono plugs ⟷ 3 phono plugs)

or Sony RK-74A + VMC-1S



(2 phono plugs ⟷ 2 phono plugs)

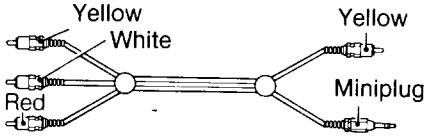
+

Yellow (phono plug ⟷ phono plug)

❸ **Sony VMC-1S**

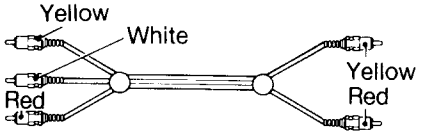
(phono plug ⟷ phono plug)

❹ **Sony VMC-1MP3 or VMC-2MP3**



(3 phono plugs ⟷ phono plug and miniplug)

or Sony VMC-608MS or VMC-609MS

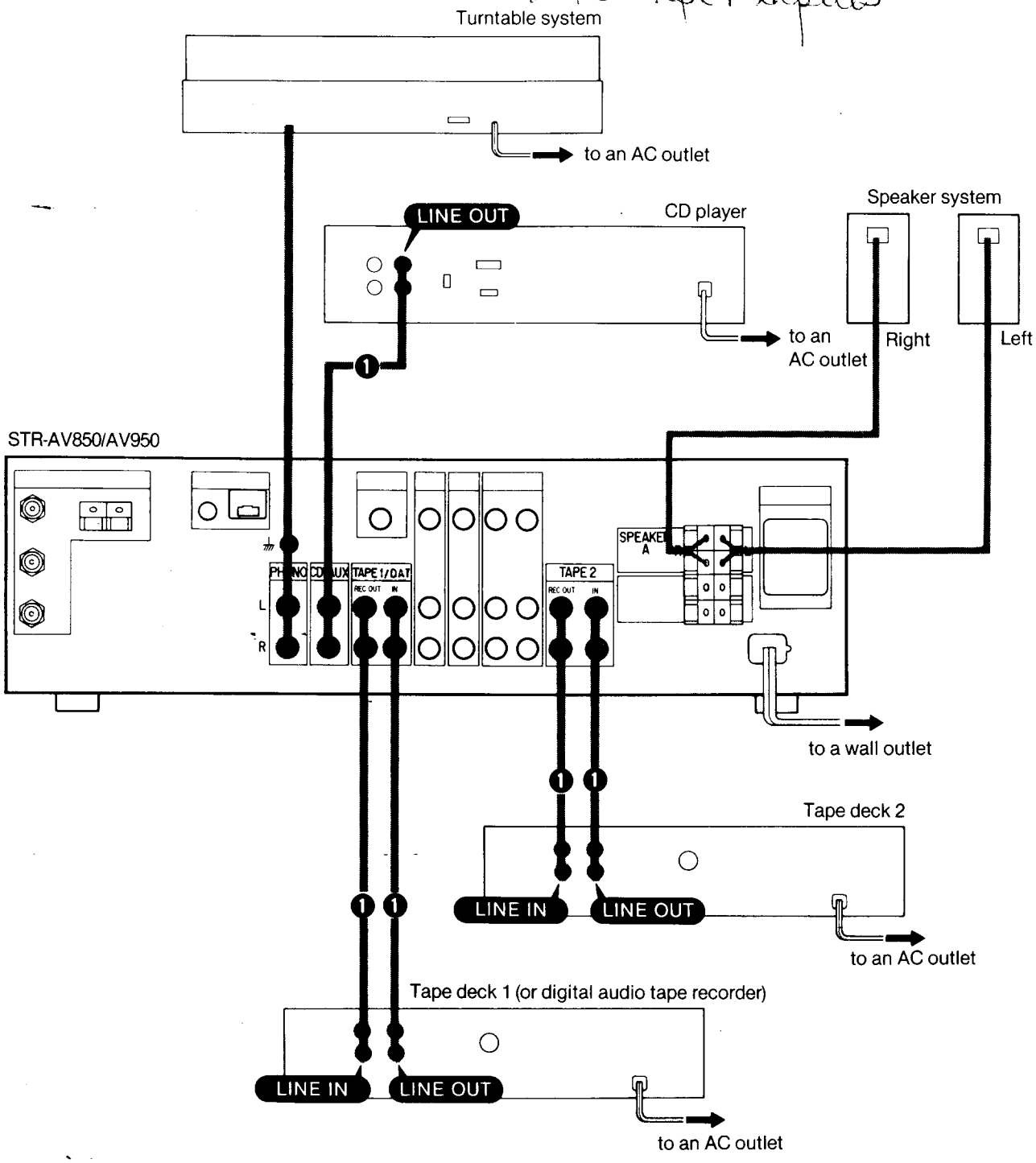


(3 phono plugs ⟷ 2 phono plugs)

AUDIO SYSTEM CONNECTION

Turntable system + **Tape decks** + **CD player**

When using RMC-70 to operate tape deck, deck must be connected to the Tape 1 inputs

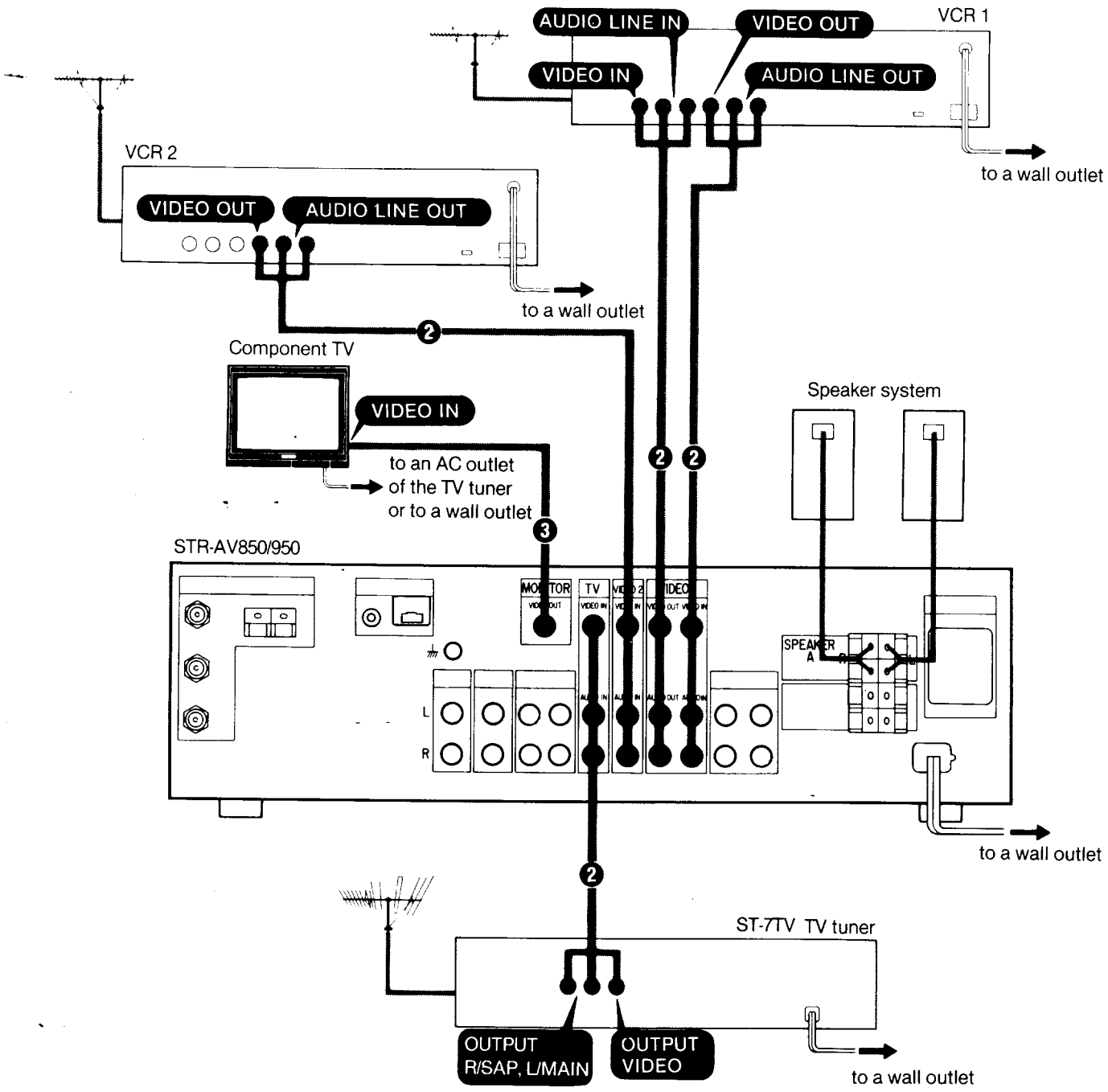


VCR/TV SYSTEM CONNECTION

Before making connections, refer to the instruction manual of the VCR.

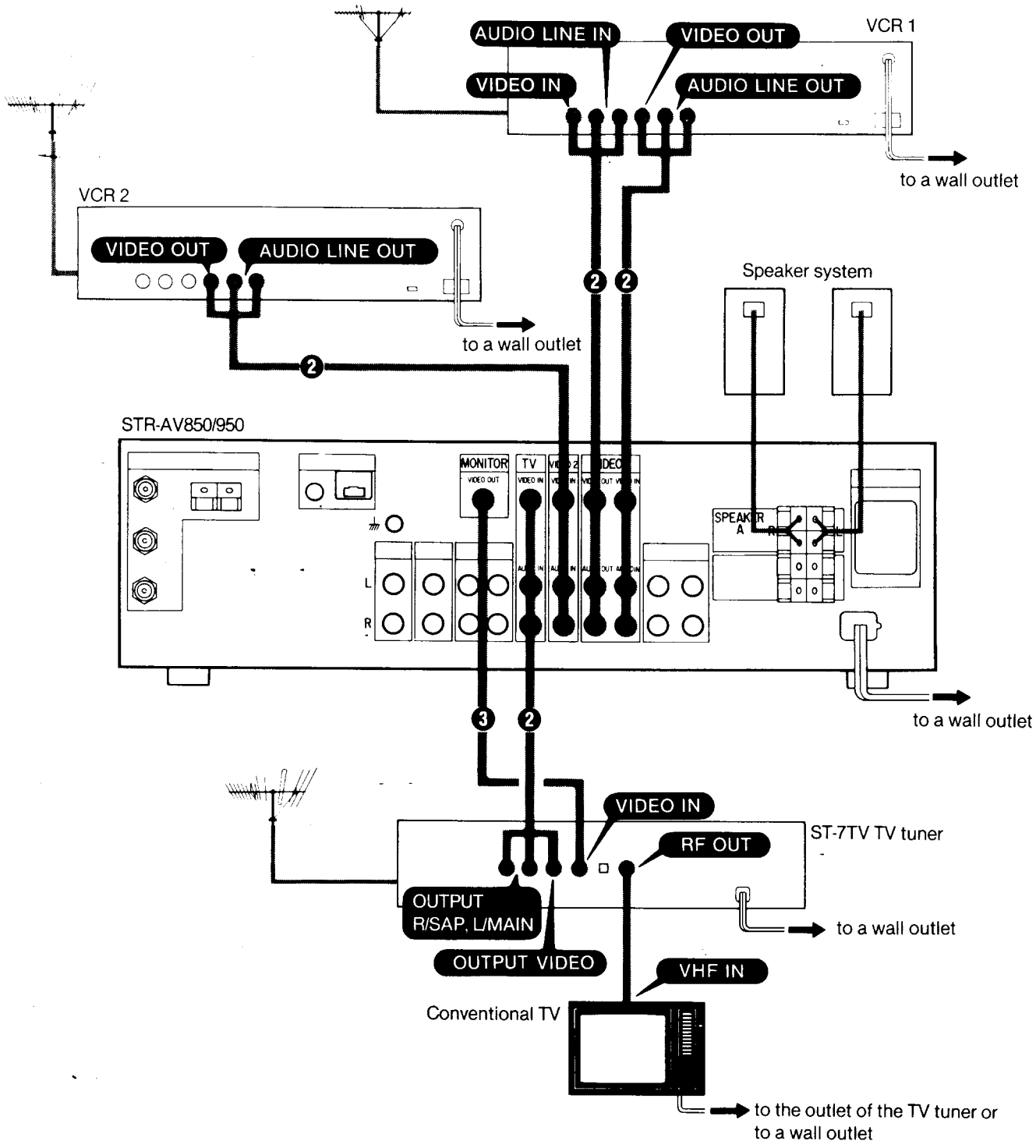
Hi-fi VCRs + **Component TV** + **TV tuner**

VCR1 → for recording and playback
VCR2 → for playback only

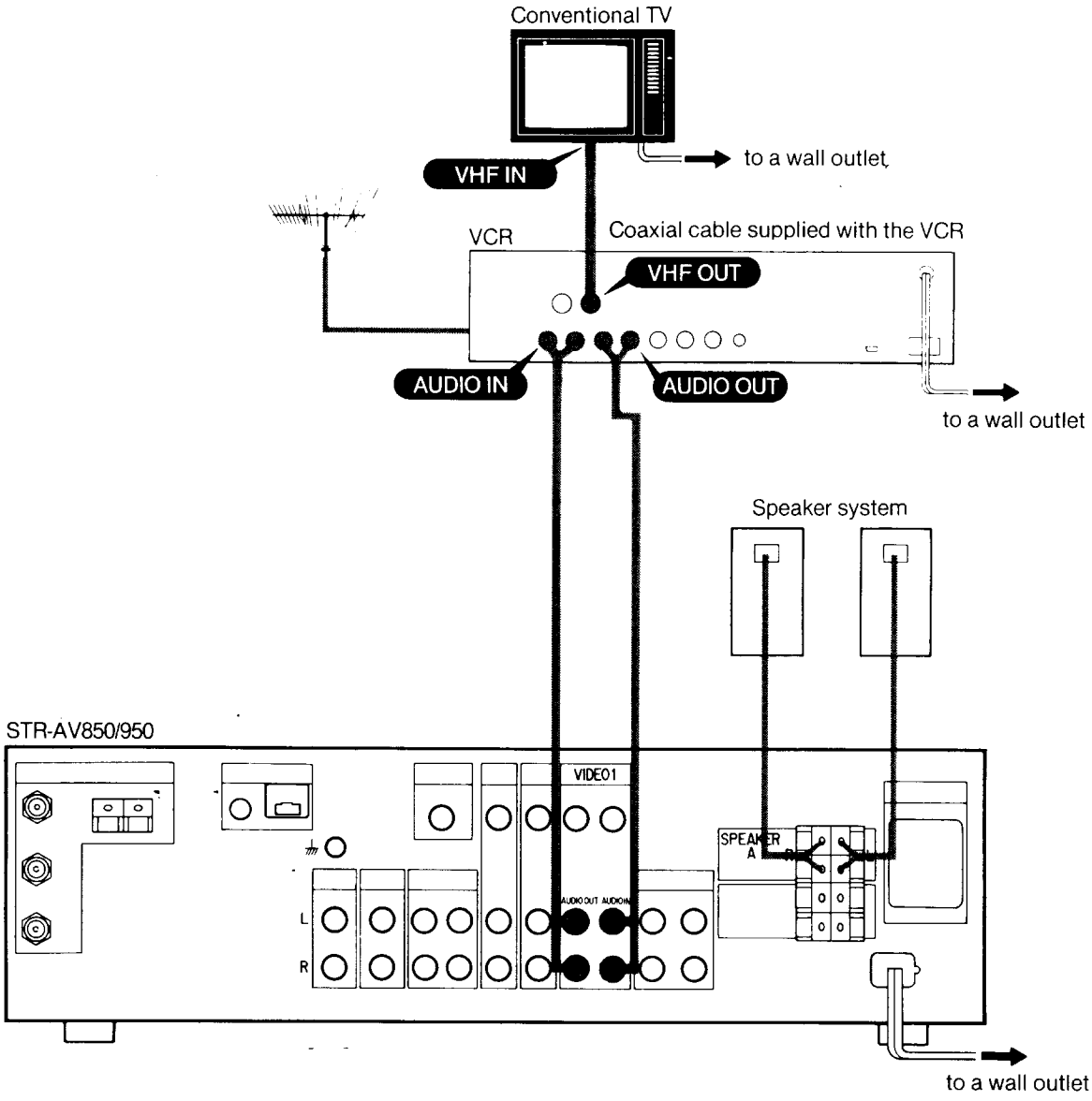


Hi-fi VCRs + **Conventional TV** + **TV tuner**

VCR1 → for recording and playback
VCR2 → for playback only



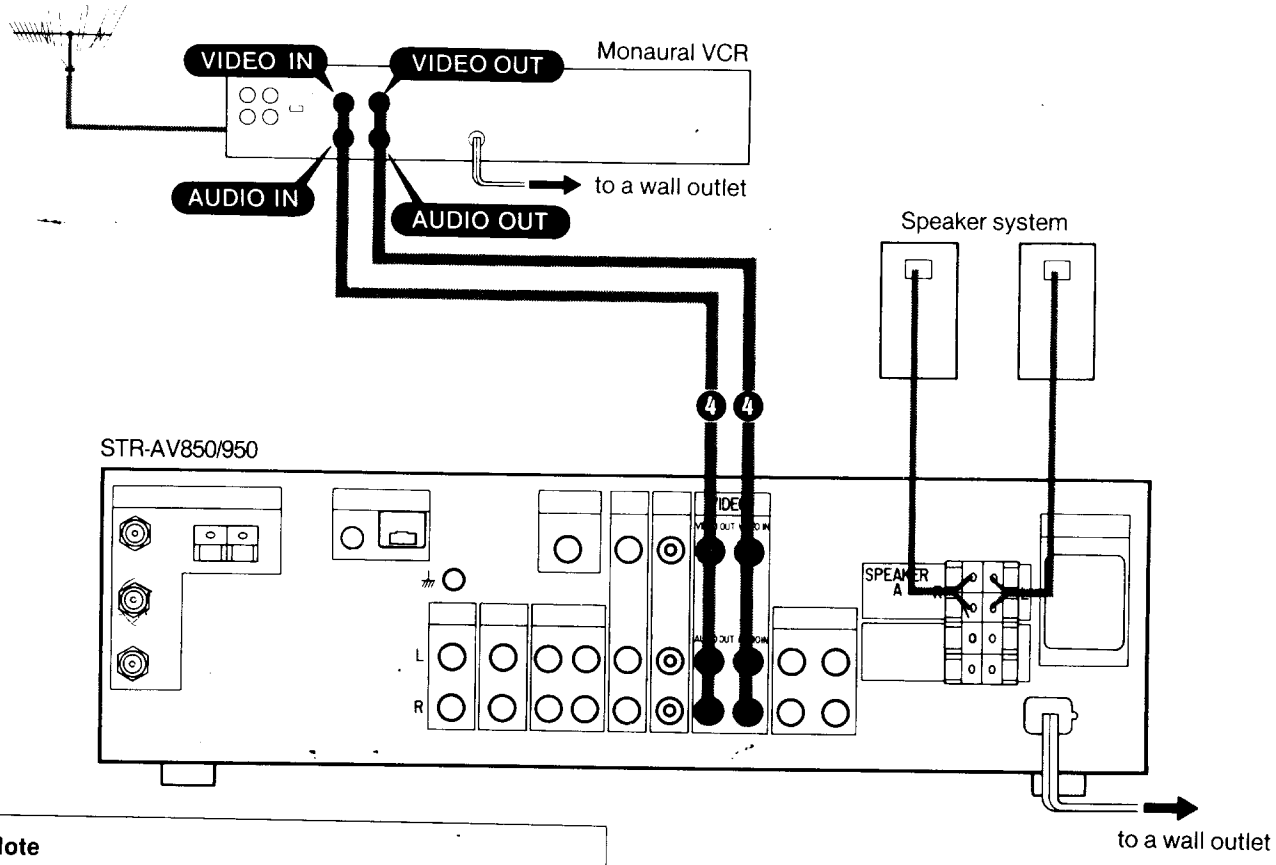
Hi-fi VCR + **Conventional TV**



Monaural VCR

Connect **a component TV to the MONITOR VIDEO OUT jack** of the receiver or **a conventional TV to the VHF OUT connector** of the VCR.

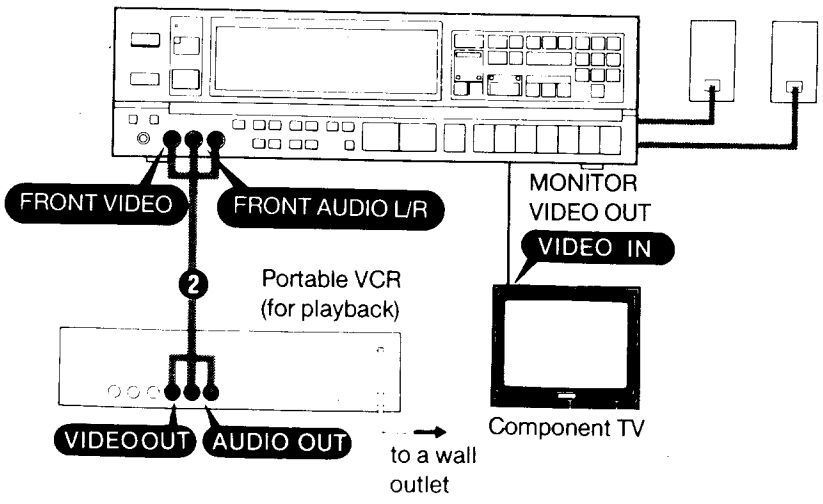
For the connection of the other equipment, refer to the preceding diagrams.



Note
If you connect a monaural VCR to the receiver and record a stereo program source, the recorded sound will be monaural, and stereo separation of the program source monitored from the speakers may be worsened.

Portable hi-fi VCR

For the connection of other equipment, refer to the preceding diagrams.

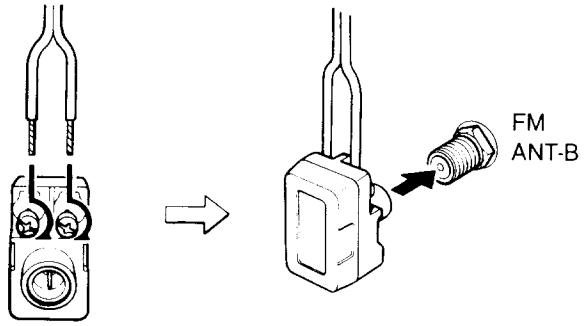


ANTENNA/CABLE CONNECTION

TO CONNECT FM ANTENNA

To get the optimum sound of FM broadcasts, install a suitable outdoor FM antenna.
The supplied ribbon antenna may be useful until you install a more suitable antenna.

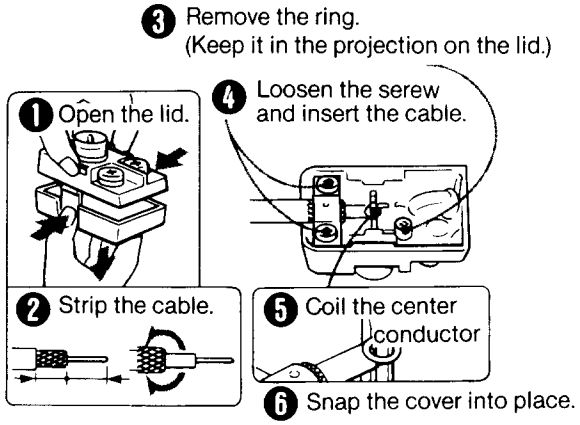
Ribbon antenna supplied (or 300-ohm twinlead) connection
Connect the ribbon antenna or twinlead to the supplied external antenna connector and connect it to the FM ANT-B connector. Fully extend the antenna and fasten the ends to a wall using thumbtacks or adhesive tape.



External antenna connector (supplied)

Note
The supplied ribbon antenna or a standard 300-ohm twinlead is susceptible to the pickup of extraneous noise.

75-ohm coaxial cable connection
A 75-ohm coaxial cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations. 3C-2V cable is recommended.
Connect the 75-ohm coaxial cable to the supplied antenna connector and connect it to the FM ANT-B connector.


❸ Remove the ring.
(Keep it in the projection on the lid.)
❶ Open the lid.
❹ Loosen the serew and insert the cable.
❷ Strip the cable.
❺ Coil the center conductor
❻ Snap the cover into place.

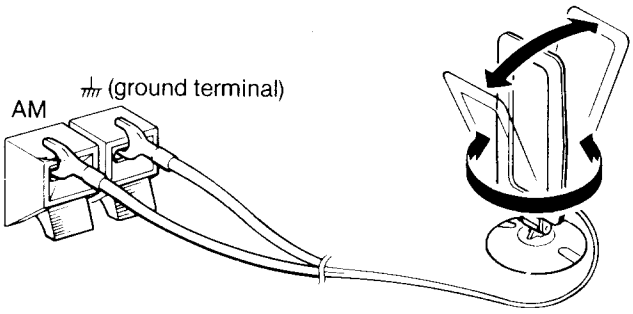
Note
If you have another FM tuner, connect an FM external antenna to the CATV ANT-A IN connector and connect the CATV ANT-A OUT connector to the FM antenna terminal of the other FM tuner.

Notes on the FM and TV antennas
— When the stereo receiver and video system are connected and both are in use
We recommend the use of outdoor antennas to obtain better quality picture and sound.
- Use the outdoor FM antenna for FM reception and the TV antenna for TV reception. Do not use one antenna for both.
- Use 75-ohm coaxial cables for both antennas.
- Locate the two antennas as distant as possible from each other.

If FM signals interfere with the TV picture and sound, press any FUNCTION button to change the function mode from the tuner to another.

TO CONNECT AM ANTENNA

Supplied layout-free AM external antenna
To receive AM programs, always keep the layout-free AM antenna connected to the AM external antenna terminals. Adjust the position of the antenna to obtain optimum reception.



This antenna can be placed in various places, such as on a speaker or a desk, or hung on a wall.

AM tuning interval
This is preset to 10 kHz. To use the receiver where the frequency allocation system is based on a 9 kHz interval, make the following adjustment.

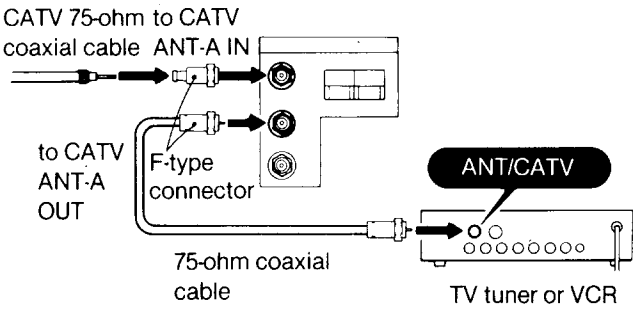
1 Turn off the unit by pressing the SYSTEM POWER switch.
2 Press the SYSTEM POWER switch again, while pressing the "+" STATION SCAN button.

To reset the interval to 10 kHz, follow the same precedure.

> **Note**
> When the interval is changed, all preset and located stations and acoustic settings will be erased. After changing the interval, memorize the stations and acoustic settings again.

TO CONNECT CATV CABLE

Connect the CATV 75-ohm coaxial cable to the CATV ANT-A IN connector and the CATV ANT-A OUT connector to the antenna/cable input of the TV tuner or VCR.
For connection, use a commercially available F-type connector.



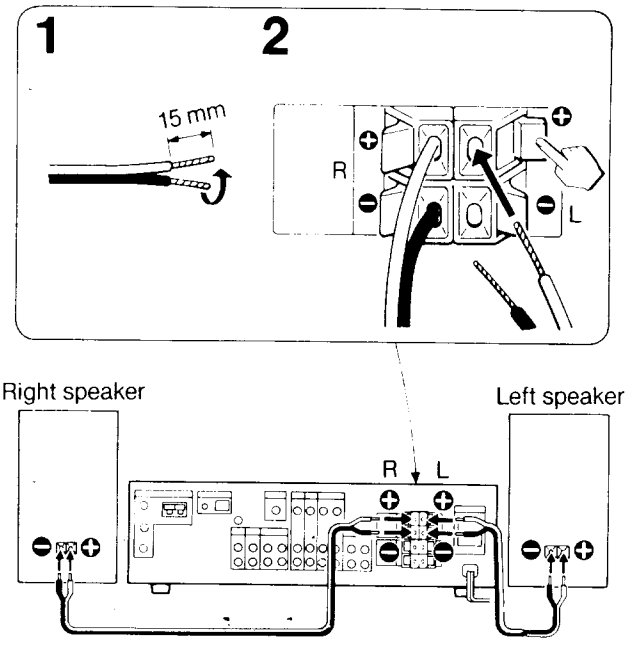
Note to CATV system installer in the U.S.A.
This reminder is provided to call the cable TV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

SPEAKER CONNECTION

Two speaker systems can be connected. Select the system to be used, using the SPEAKERS buttons on the front panel.

Speaker impedance and power capability
This receiver is designed to work best with speakers having nominal impedance from 8 to 16 ohms,at rated 80 watts (STR-AV850) or 115 watts (STR-AV950) minimum RMS per channel with an 8-ohm load from 20 - 20,000 Hz.

Speaker cord connection



Generally speaker cords are coded with color or mark, indicating the ⊕ ⊖ polarities. Remember the coding and prevent faulty connections.

Right speaker: to R SPEAKER connectors
Left speaker: to L SPEAKER connectors
⊕ code: for ⊕ connection
⊖ code: for ⊖ connection

POWER SOURCE CONNECTION

Connect the AC power cord of each equipment as follows so that you can turn on and off the equipment with the SYSTEM POWER switch of the receiver.

Receiver → **to a wall outlet**
Other equipment → **to the AC outlets on the receiver**
or
to the AC outlets on the other equipment
already connected to the AC outlets on the receiver

You cannot turn on/off a equipment directly connected to a wall outlet with the SYSTEM POWER switch of the receiver.

Caution
Be careful that the total power consumption of the equipment connected to the AC outlets on the receiver is within 100 watts.
Do not connect electrical home appliance such as an electric iron, fan, TV, or other high-wattage equipment to these outlets.

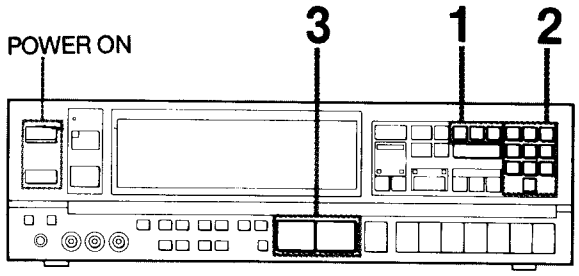
Note on the polarity of the AC power cord plug
The plug of the AC power cord can only be inserted into the polarized AC outlet. Insert the larger plug of the cord to the negative potential of the outlet. This is to operate the receiver and other components "in phase".

When the connection is complete, insert the plug of the AC power cord to a wall outlet, and turn on the power. Now you can operate the unit.

TO RECEIVE FM/AM BROADCASTS

Before tuning, select the speaker system by depressing SPEAKERS button A or B.
If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.

TO TUNE IN A STATION MANUALLY — DIRECT ACCESS TUNING



1 Select the desired band, FM or AM.
The "0" indicator blinks.

2 Enter the frequency, pressing the appropriate number buttons.
The desired station is tuned in.

3 Adjust the volume.

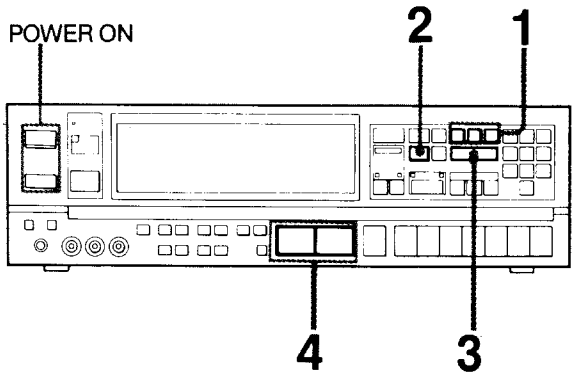
To correct the entered frequency
Press the FM ANT-A, FM ANT-B, or AM button again, and enter the correct number.

If the frequency figures flashes in the display window
The entered number is outside the receiver's frequency range (FM 87.5 to 108 MHz; AM 530 to 1,610 kHz).
Press the FM ANT-A, FM ANT-B, or AM button again, and enter the correct number.

When entering an AM broadcast frequency
You need not enter the last digit "0". If you have changed the AM tuning interval to 9kHz, however, enter the frequency to the last digit.

TO SCAN A STATION AUTOMATICALLY — STATION SCAN TUNING

When you do not know the frequency of the station, proceed as follows.



Preparation—station searching (searching for and memorizing the receivable stations.)

1 Select the desired band, FM or AM.
The "0" indicator blinks.

2 Press SEARCH START.
Searching starts.
When the searching is over, lowest frequency station is tuned in.

Tuning

3 Press STATION SCAN repeatedly until the desired station is tuned in.
+: For a higher frequency station
−: For a lower frequency station

4 Adjust the volume.

From the second time on, you need not proceed with station searching. Instead, select the desired band, and **enter a frequency within the band.**

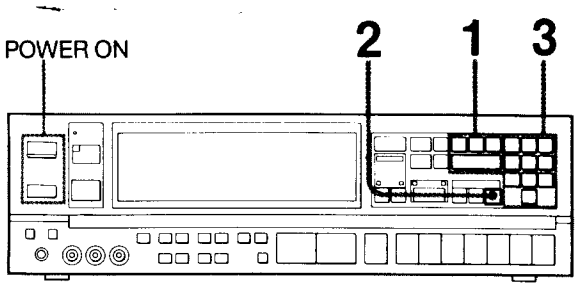
To search for a station quickly
Keep the STATION SCAN button depressed. The stations are consecutively received for several seconds. Release it when the desired station is received.

When none or only a few FM stations are located
Set the sensitivity level to "LOW" with the FM LEVEL button.

To erase a station from memory
Tune in the station and press the MEMORY ERASE button. The station will be erased from memory until you proceed with the station searching again. The station will be skipped over when the STATION SCAN button is pressed.

TO TUNE IN A PRESET STATION — PRESET TUNING

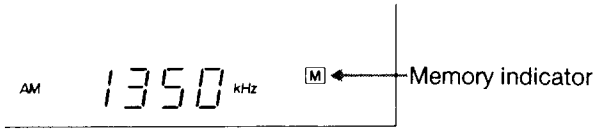
You can easily tune in your favorite stations by presetting them.



Preparation—presetting of the stations
A total of 10 stations can be memorized, one to each number, in any desired sequence. Repeat these steps for each number.

1 Tune in the desired station.
Change the setting of the FM MODE or FM IF BAND button, if necessary. This setting is also memorized.

2 Press MEMORY PRESET.



3 Press the number button, while the memory indicator is displayed.
The number is displayed on the display window.

Reception of a preset station

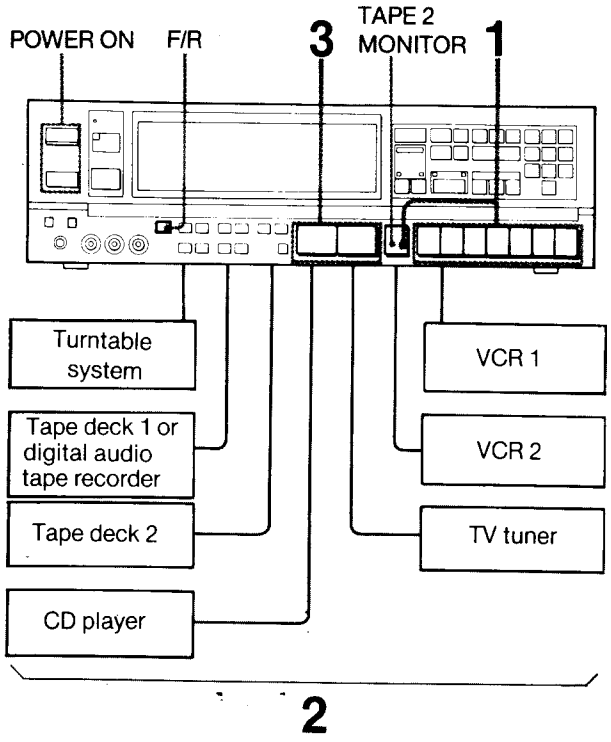
Select the preset channel with the number buttons.
The tuned station is indicated on the display window.

To survey the programs being broadcast on the preset stations
Press the MEMORY SCAN button.
Each station is tuned in successively for several seconds.
To stop scanning, press the appropriate number button.

Retention of the memory
The receiver retains the contents of the memory even when the power is off until a new station is memorized on the same preset number. When a new setting is memorized, the previous setting will be erased.

TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

Before listening, select the speaker system by depressing SPEAKERS button A or B.
If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.



1 Select the program source.

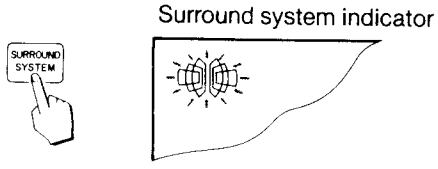
Program source	Button to be pressed
Record	**PHONO**
Compact disc or auxiliary program sources	**CD/AUX**
Taped programs	**TAPE 1/DAT or TAPE 2 MONITOR** according to which inputs the tape deck is connected to.
TV programs	**TV**
Video programs	**VIDEO 1 or VIDEO 2** according to which inputs the VCR is connected to.

When you have pressed VIDEO 2, select the front or rear input with the F/R button.

2 Start the program.

3 Adjust the volume.

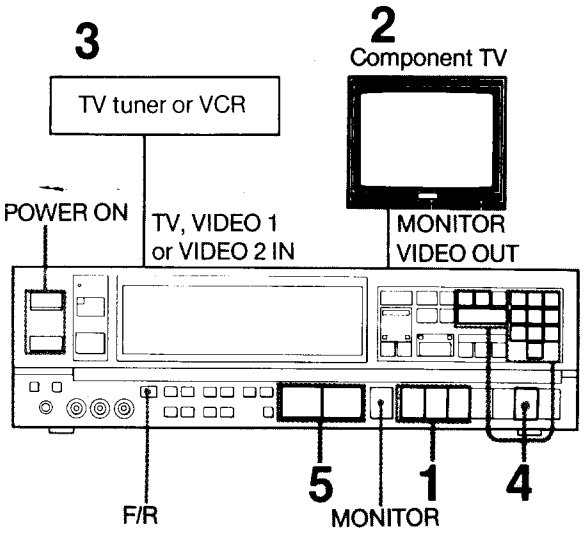
To enjoy "surround sound"
Press the SURROUND SYSTEM button.
You can obtain such stereo effect as in movie theaters or concert halls. To disengage the system, press the button again.



For STR-AV950 only
When listening to records, set the CARTRIDGE select button according to that of your turntable system.
For moving-coil type cartridge ..... Set to MC.
For moving-magnet type cartridge ..... Set to MM.

TO RECEIVE A TV/CATV PROGRAM WITH FM SIMULCAST

If the MONITOR indicator is lit, press the TAPE 2 MONITOR button to disengage it.



1 Press TV, VIDEO 1, or VIDEO 2.

TV: When the VHF antenna or the CATV cable is connected to the TV tuner.

VIDEO 1: When the VHF antenna or the CATV cable is connected to the VCR connected to the VIDEO 1 inputs.

VIDEO 2: When the VHF antenna or the CATV cable is connected to the VCR connected to the VIDEO 2 inputs.

When you have pressed VIDEO 2, select the front or rear input with the F/R button.

2 Turn on the TV.

3 Select the desired program.

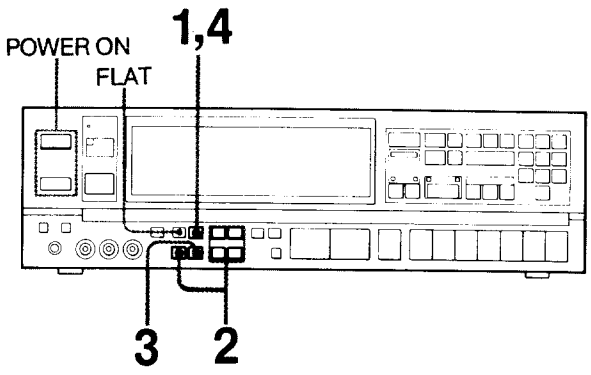
4 Tune in the FM simulcast TV/CATV program.

5 Adjust the volume.

TO MEMORIZE THE ACOUSTIC SETTINGS

PRESETTING

The receiver can store and recall three sets of three different tonal settings (bass/treble control and subsonic filter setting).



1 Press SELECT to set the memory number 1, 2, or 3.
Memory number appears on the display window.

2 Adjust BASS/TREBLE and set SUBSONIC.
Memory number disappears.

3 Press MEMORY.
The memory number flashes.

4 Press SELECT while the memory number flashes.

Repeat these steps for each memory number.

Retention of the memory
The receiver retains the contents of the memory even when the power is off until a new acoustic setting is memorized on the same memory number. When a new setting is memorized, the previous setting will be erased.

TO RECALL THE MEMORY

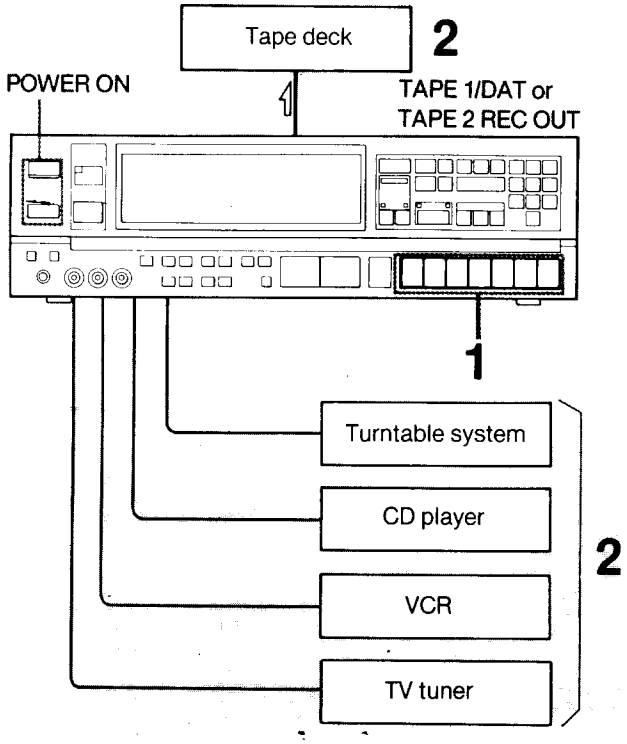
Press the SELECT button to set the desired memory number.

To change a part of the setting temporarily
Simply change the part of the acoustic setting as you want. To recall the original setting later, press the SELECT button and set the desired memory number.

To listen to the program without any tonal adjustment
Press the FLAT button.

TO RECORD ON AN AUDIO TAPE

RECORDING

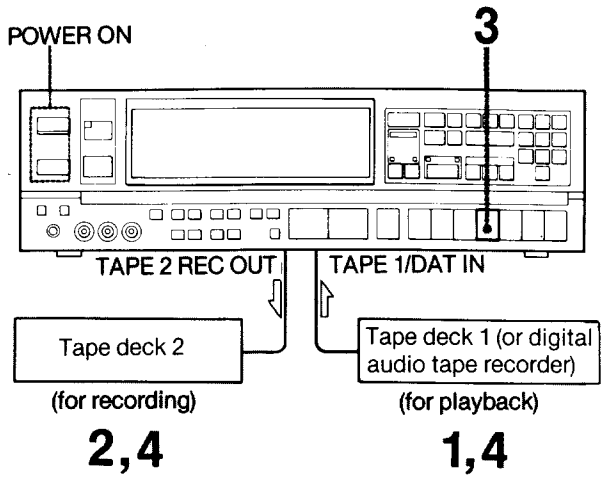


Turn on the receiver, tape deck and the desired program source.

1 Select the desired program source.
For an FM/AM broadcasts, tune in the desired station.

2 Start the program source and set the tape deck in the recording mode.

TAPE DUBBING



Turn on the receiver and the connected tape decks.

1 **Insert a recorded tape into the tape deck 1** (or the digital audio tape recorder).

2 **Insert a blank tape into the tape deck 2 and adjust the recording level.**

3 **Press TAPE 1/DAT (TAPE 1 → 2).**

4 **Start playback on the tape deck 1** (or the digital audio tape recorder) **and recording on the tape deck 2.**
Dubbing will begin.

Note
You cannot dub an audio tape from the tape deck 2 to the tape deck 1 (or digital audio tape recorder).

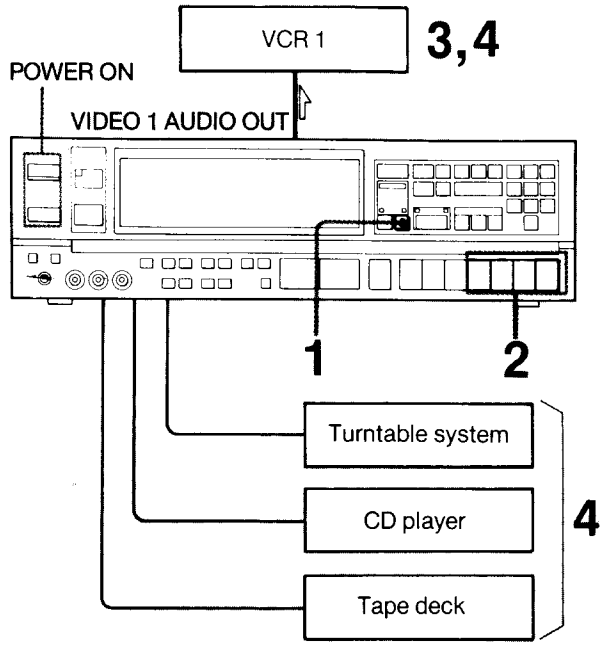
To monitor the recorded sound
If the tape deck connected to the TAPE 2 IN jacks has separate record and playback heads, you can monitor the recording results. Press the TAPE 2 MONITOR button during recording or dubbing. To listen to the source sound again, press the button again.

Note
The volume and tonal settings on the receiver do not have any effect on the recording.

TO RECORD ON A VCR

For operation of the VCR, refer to its instruction manual.

RECORDING AUDIO PROGRAMS



Turn on the receiver and the equipment to be used.

1 Press EDIT AUDIO.

2 Select the desired program source.
For an FM/AM broadcast, tune in the desired station.

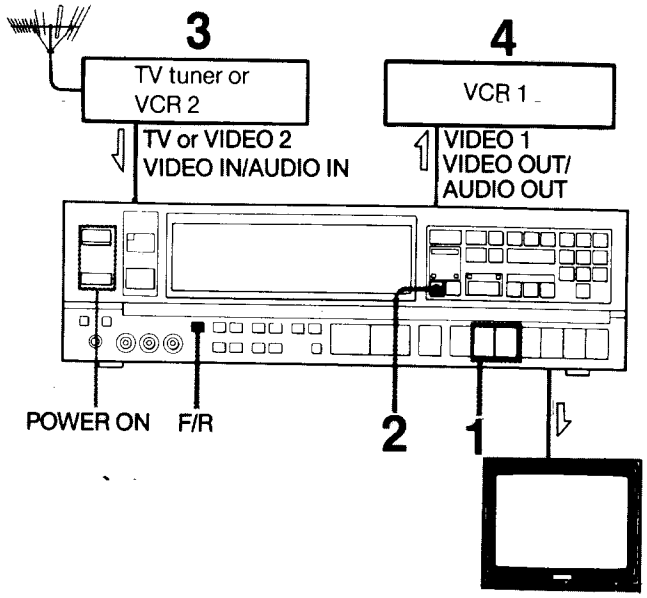
3 Insert a video cassette into the VCR and adjust the recording level.

4 Start the program source and set the VCR to the recording mode.

Note
You cannot record on a VCR connected to the VIDEO 2 inputs.

RECORDING TV PROGRAMS

To record the picture and the sound of a TV program, proceed as follows.



Turn on the receiver and the equipment to be used.

1 Press TV or VIDEO 2.
TV: When the VHF antenna is connected to the TV tuner connected to the TV inputs.
VIDEO 2: When the VHF antenna is connected to the VCR connected to the VIDEO 2 inputs.

If you have pressed VIDEO 2, select the front or rear input with the F/R button.

2 Press EDIT VIDEO.

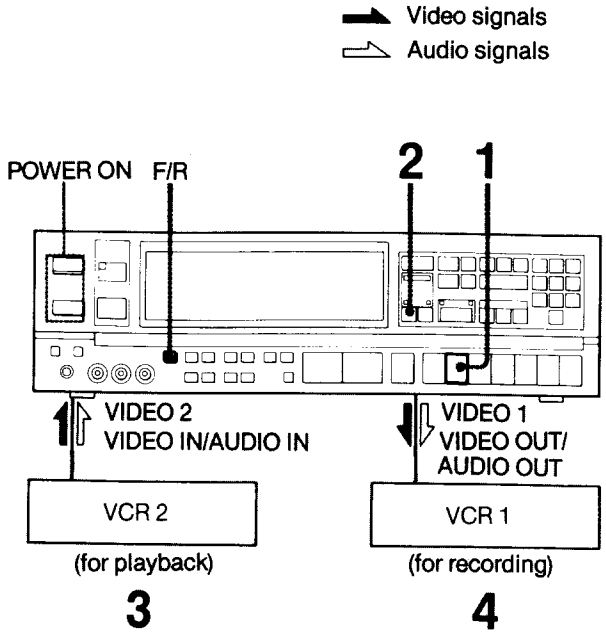
3 Select the desired program.

4 Set the VCR 1 to the recording mode.

Note
The volume and tone settings on the receiver do not have any effect on the recording.

VIDEO TAPE EDITING

EDITING



Turn on the receiver and the equipment to be used.

1 Press VIDEO 2.
Select the front or rear input with F/R.

2 Press EDIT VIDEO.

3 Set the VCR 2 to the playback mode.

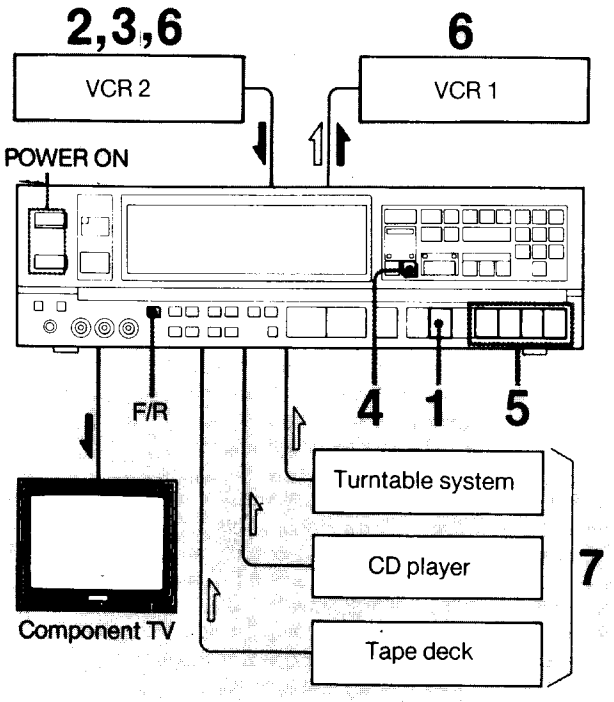
4 Set the VCR 1 to the recording mode.
Editing will begin.

You can listen to an audio program source during video tape editing by pressing the FUNCTION button.

Note
You cannot edit a video tape from VCR 1 to VCR 2.

ADDING NEW SOUND ON A VIDEO TAPE DURING EDITING

During video tape editing, you can replace the sound previously recorded on a video tape with the desired sound from an audio source, thus making your own personalized video tape.



Turn on the receiver and the equipment to be used.

1 **Press VIDEO 2.**
Select the front or rear input with F/R.

2 **Insert a recorded video tape into the VCR 2 and set it to the playback mode.**

3 At the point where audio dubbing is to start, **press the PAUSE button on the VCR 2.**

4 **Press EDIT AUDIO.**

5 **Select the audio program source.**

6 **Release the pause mode of the VCR 2 and set the VCR 1 to the recoreding mode.**

7 **Start the program source.**

SPECIFICATIONS

AUDIO OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 80 watts (STR-AV850) or 115 watts (STR-AV950) per channel minimum RMS power, with no more than 0.006% total harmonic distortion from 250 milliwatts to rated output.

OTHER SPECIFICATIONS

Amplifier section

Dynamic power output

STR-AV850

130 watts + 130 watts (8 ohms, at 1 kHz IHF)
160 watts + 160 watts (6 ohms, at 1 kHz IHF)
180 watts + 180 watts (4 ohms, at 1 kHz IHF)

STR-AV950

170 watts + 170 watts (8 ohms, at 1 kHz IHF)
210 watts + 210 watts (6 ohms, at 1 kHz IHF)
250 watts + 250 watts (4 ohms, at 1 kHz IHF)

Harmonic distortion
Less than 0.006% at rated output

Intermodulation (IM) distortion
(60 Hz : 7 kHz = 4 : 1)
Less than 0.006% at rated output

Frequency response
PHONO: RIAA equalization curve ± 0.5 dB
CD/AUX, VIDEO 1, 2 (audio), TV (audio), TAPE 1/DAT, TAPE 2: 5 Hz – 100 kHz $^{+0}_{-1}$ dB

Residual noise: Less than 70 μV (8 ohms, network A)
Damping factor: 50 (8 ohms, 1 kHz)

Inputs

		Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	MM	2.5 mV	50 kilohms	87 dB 79 dB* (A, 2.5 mV)
	MC (STR-AV950 only)	0.25 mV	100 ohms	69 dB 78 dB* (A, 0.25 mV)
CD/AUX VIDEO 1, 2 (audio) TV (audio) TAPE 1/DAT, TAPE 2		150 mV	50 kilohms	105 dB 86 dB* (A, 150 mV)

*'78 IHF

Outputs: REC OUT 1, 2, VIDEO 1 AUDIO OUT
Voltage 150 mV
Impedance 10 k ohms
SPEAKER A, B
Accepts speakers of 8 – 16 ohms.
HEADPHONES
Accepts low and high impedance headphones.

Tone controls: BASS ±8 dB at 100 Hz
TREBLE ±8 dB at 10 kHz

Subsonic filter: 6 dB/oct. attenuation below 15 Hz

Video section

Inputs: TV, VIDEO 1, 2: 1 Vp-p, 75 ohms unbalanced
Outputs: VIDEO 1, MONITOR VIDEO OUT: 1 Vp-p, 75 ohms unbalanced

FM tuner section

Tuning range: 87.5 MHz - 108 MHz
Antenna terminals: 75 ohms, unbalanced (2)
Intermediate frequency: 10.7 MHz
Sensitivity at 50 dB quieting
16.1 dBf, 3.5 μV (mono)
38.3 dBf, 45 μV (stereo)
Usable sensitivity: 10.3 dBf, 1.8 μV (IHF)
Signal-to-noise ratio: 82 dB (mono), 76 dB (stereo)
Harmonic distortion: 0.05% (mono), 0.1% (stereo) at 1 kHz, WIDE
IM distortion: 0.05% (mono), 0.1% (stereo), WIDE
Separation: 50 dB at 1 kHz, WIDE
Frequency response: 30 Hz - 15 kHz $^{+0.5}_{-1.5}$ dB
Selectivity: 65 dB at 400 kHz, NORMAL
30 dB at 400 kHz, WIDE
Capture ratio: 1.2 dB
AM suppression ratio: 54 dB
Image response ratio: 80 dB
IF response ratio: 90 dB
Spurious response ratio
100 dB
RF intermodulation: 65 dB
Searching threshold: LOW 30 dBf, MID 40 dBf, HIGH 50 dBf

AM tuner section

Tuning range: 530 - 1,610 kHz (with the AM tuning interval set at 10 kHz)
531 - 1,602 kHz (with the AM tuning interval set at 9 kHz)
Antenna: Layout-free antenna
External antenna terminal
Intermediate frequency
450 kHz
Usable sensitivity: 50 dB/m, layout-free antenna (at 1,000 kHz)
100 μV, external antenna terminal (at 1,000 kHz)
Signal-to-noise ratio: 54 dB (at 50 mV/m)
Harmonic distortion: 0.3% (at 50 mV/m, 400 Hz)
Selectivity: 40 dB (10 kHz)
Searching threshold: 55 dB/m

General

System	Tuner section: PLL quartz-locked digital synthesizer system Preamplifier section: low-noise NF type equalizer amp Power amplifier section: pure-complementary SEPP
Power requirements	120 V AC, 60 Hz
Power consumption	**STR-AV850:** 150 watts **STR-AV950:** 200 watts
AC outlets	Two switched (100 watts max.)
Dimensions	Approx. 430 × 130 × 345 mm (w/h/d) ($17 \times 5^{1}/_{8} \times 13^{5}/_{8}$ inches) including projecting parts and controls
Weight	**STR-AV850** Approx. 8.2 kg (18 lb 2 oz) net Approx. 9.5 kg (21 lb 0 oz) in shipping carton **STR-AV950** Approx. 9.6 kg (21 lb 3 oz) net Approx. 10.9 kg (24 lb 1 oz) in shipping carton
Accessories supplied	FM ribbon antenna (1) AM layout-free antenna (1) External antenna connector (1) RM-U70 Remote Commander Sony batteries SUM-3 (NS) (2) (for the remote commander)

Design and specifications subject to change without notice.

TROUBLESHOOTING

Before proceeding through the checklist below, examine the connections and the procedures outlined in the manual.

Should any problem persist after you have checked the following items, consult your nearest Sony dealer.

	PROBLEM	CAUSE	SOLUTION
Broadcast program	STEREO indicator flickers or does not appear when receiving stereo programs.	A very weak FM station or a noisy FM program is received.	Adjust the antenna or connect an external FM antenna.
			Press the FM MODE button to set to HI-BLEND or MONO mode.
	No FM station can be located by station searching.	The signal strength of the stations are weak.	Press the FM LEVEL button to set to MID or LOW level.
	No AM station can be located by station searching.	The AM tuning interval is set incorrectly.	Change the tuning interval according to the AM frequency allocation system of your country. (See page 17.)
		The signal strength of the stations are too weak for station searching.	Adjust the antenna.
			Tune in the stations with the direct access tuning.
	Stations cannot be tuned in correctly when the number button is pressed.	The frequency has not been memorized correctly.	Memorize the frequency correctly.
Video program	Picture does not appear.	VCR, TV tuner or TV connection is not correct.	Connect the equipment correctly.
		The function switch on the VCR is not set correctly.	Set the switch appropriately.
		The TV is not turned on.	Turn the TV on.
Amplifier	Sound is not heard.	The speaker or program source equipment is not connected correctly.	Connect the equipment correctly.
		The SPEAKERS selectors are not set correctly.	Set the selectors correctly.
		The MONITOR button has been pressed for a program source other than tape deck 2.	Press to disengage it.
		The correct FUNCTION button is not pressed.	Press the correct FUNCTION button.
		The function switch on the VCR is not set correctly.	Check and set the switch appropriately.
		The volume is set to minimum.	Increase the volume.
	One channel does not transmit audio, or the volume from the left and right speakers is unbalanced.	The BALANCE control buttons are not set appropriately.	Adjust the BALANCE control buttons.
		The speaker or program source is not connected correctly.	Check and connect the equipment correctly.
	There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indicator flickers in the display window.	A short-circuit problem activates the protective circuit.	Turn off the receiver, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit, consult your nearest Sony dealer.
	Sound transmitted from the speakers is reversed.	The speakers are not connected correctly.	Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals.
	There is lack of bass sound or the instrument position is obscure.	The speaker is connected with the polarities reversed.	Connect the speaker with the correct ⊕ ⊖ polarities.

	PROBLEM	CAUSE	SOLUTION
Broadcast program	Severe hum or noise is heard.	The type cords are not of shielded type.	Use shielded type cords.
		A transformer, motor, TV or fluorescent light affects the connecting cords.	Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (10 feet) from a TV set or a fluorescent light.
		The audio components are too close to a TV set.	If both are used at the same time, separate the TV from the audio components.
		The receiver is not grounded.	Connect the ground wire to the antenna ground terminal.
		The connections are loose.	Make secure connections.
		The plugs and jacks are dirty.	Wipe the plugs and jacks with a cloth lightly dampened with alcohol.
	The Remote Commander does not operate.	The batteries are exhausted.	Replace the batteries with new ones.
		The MAIN POWER switch on the receiver is not depressed.	Depress the MAIN POWER switch.

QUICK REFERENCE

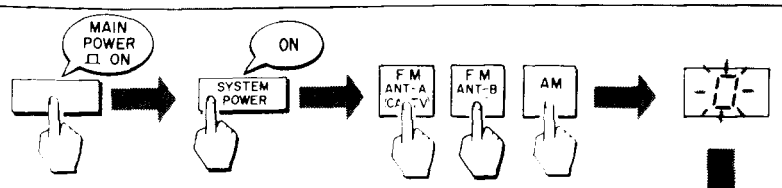
VIDEO OPERATION

The following operations are possible when the stereo receiver is connected to the equipment indicated in the connection diagram on page 12.
They may not be possible, depending on your video system.

Equipment to be used / Operation	Stereo receiver			Color monitor	TV tuner	VCR 1	VCR 2
	FUNCTION key and F/R button	**EDIT VIDEO button**	**EDIT AUDIO button**				
To view a VCR 1 playback	VIDEO 1	Release	Release	ON	OFF	Playback	OFF
To view a VCR 2 playback	VIDEO 2 ↓ F/R to REAR	Release	Release	ON	OFF	OFF	Playback
To view a TV program from the TV tuner	TV	Release	Release	ON	Tune in a TV program.	OFF	OFF
To record a TV program	VIDEO 1	Release	Release	ON	OFF	Tune in a TV program and record it.	OFF
	TV	Press	Release	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To view one TV program while recording another	TV	Release	Release	ON	Tune in a TV program.	Tune in the other TV program and record it.	OFF
To receive an FM simulcast TV program	TV ↓ FM/AM	Release	Release	ON	Tune in a TV program.	OFF	OFF
	VIDEO 1 ↓ FM/AM	Release	Release	ON	OFF	Tune in a TV program.	OFF
To record an FM simulcast TV program	TV ↓ FM/AM	Release	Press	ON	Tune in a TV program.	Set the input selector to LINE and record the program.	OFF
To record audio on a VCR	Select the desired audio source.	Release	Press	OFF	OFF	Set the input selector to LINE and record the program.	OFF
To edit a video tape	VIDEO 2 ↓ F/R to REAR	Press	Release	ON	OFF	Set the input selector to LINE and record the program.	Playback
To add new sound during video tape editing	VIDEO 2 ↓ F/R to REAR ↓ Select the audio source to be added.	Release	Press	ON	OFF	Set the input selector to LINE and record the program.	Playback

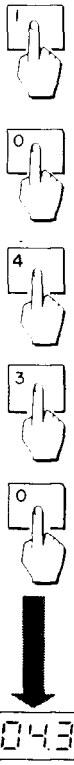
QUICK REFERENCE

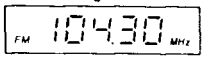
BROADCAST RECEPTION



Direct access tuning

FM 104.30 MHz



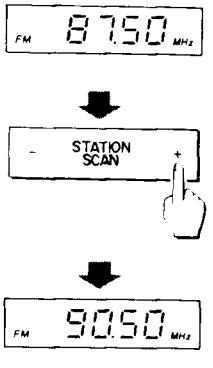


Station searching

All receivable stations will be located.

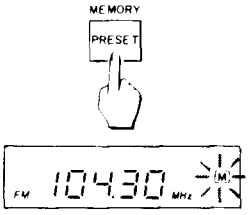
Station scan tuning

Input any frequency within the band.

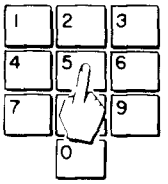


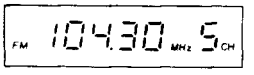
Station presetting

Tune in the desired station.



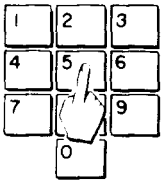
While "M" is displayed

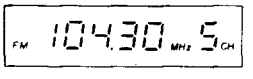




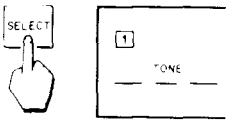
Preset tuning

Select the preset channel.

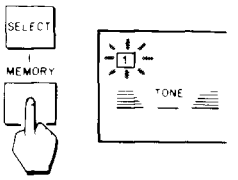




ACOUSTIC PRESETTING



Adjust the tonal quality to your preference.



While the acoustic memory number flashes

To recall memory

Select the memory number.

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